

NOAA Climate Change Web Portal

James Scott, Michael Alexander, Don Murray, Dustin Swales, Jon Eischeid

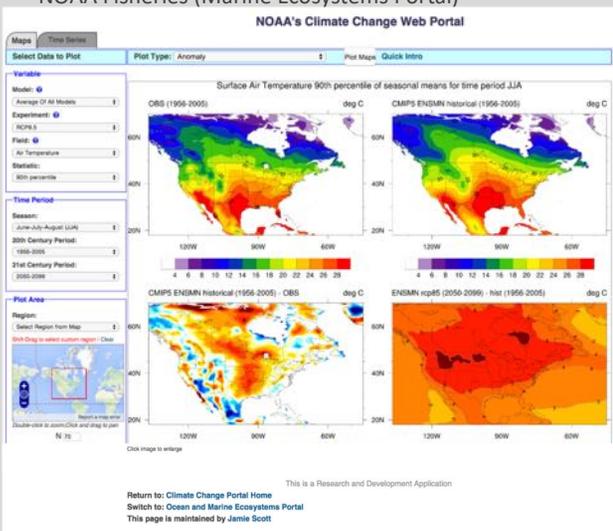
Visualize CMIP5 Projections

Tools for Decision Makers, Educators, Scientists

- Simplify & Guide Climate Model Analysis
- Provide Framework for Non-Climatology Scientists to Evaluate Climate Change Projections

Funded by :

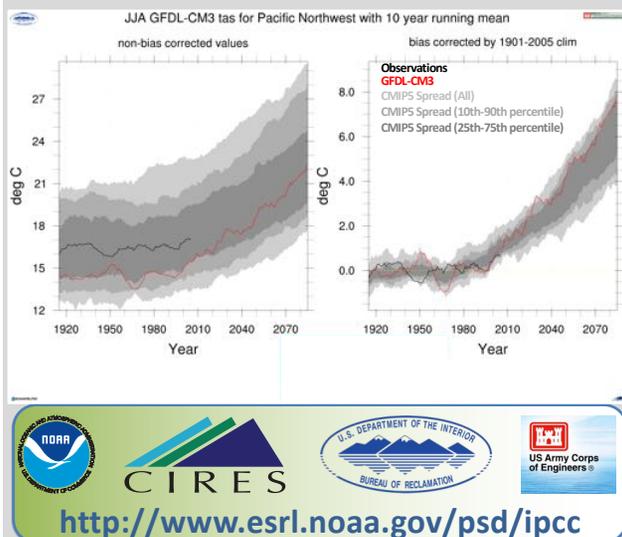
- USBR, USACE (Land and Rivers Portal)
- NOAA Fisheries (Marine Ecosystems Portal)



Time Series Analysis

US Watersheds and Large Marine Ecosystems

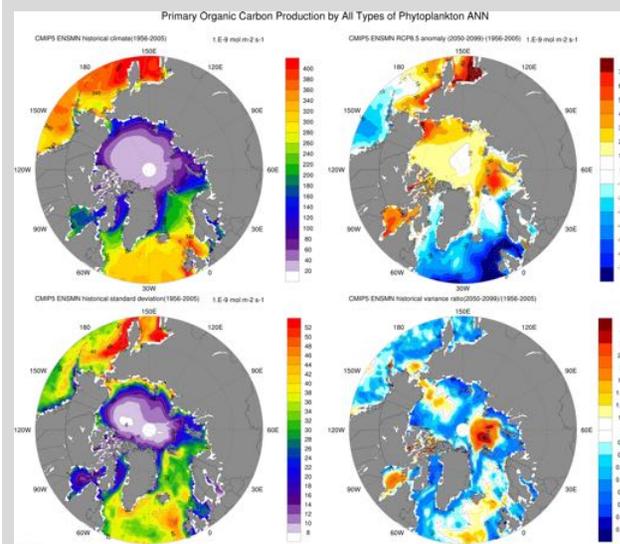
- Compare Observations to CMIP5 Models
- Individual Models or Ensemble Mean
- Running Mean Filters for Annual or Seasonal Means
- Mean Values and Bias Corrected Values



Ocean and Marine Ecosystems

Earth System Model Output

- Physical and Biological Ocean Processes
- Heat Content, Bottom Temperature, Stability, Sea Ice
- Primary Productivity, Oxygen, Chlorophyll, pH



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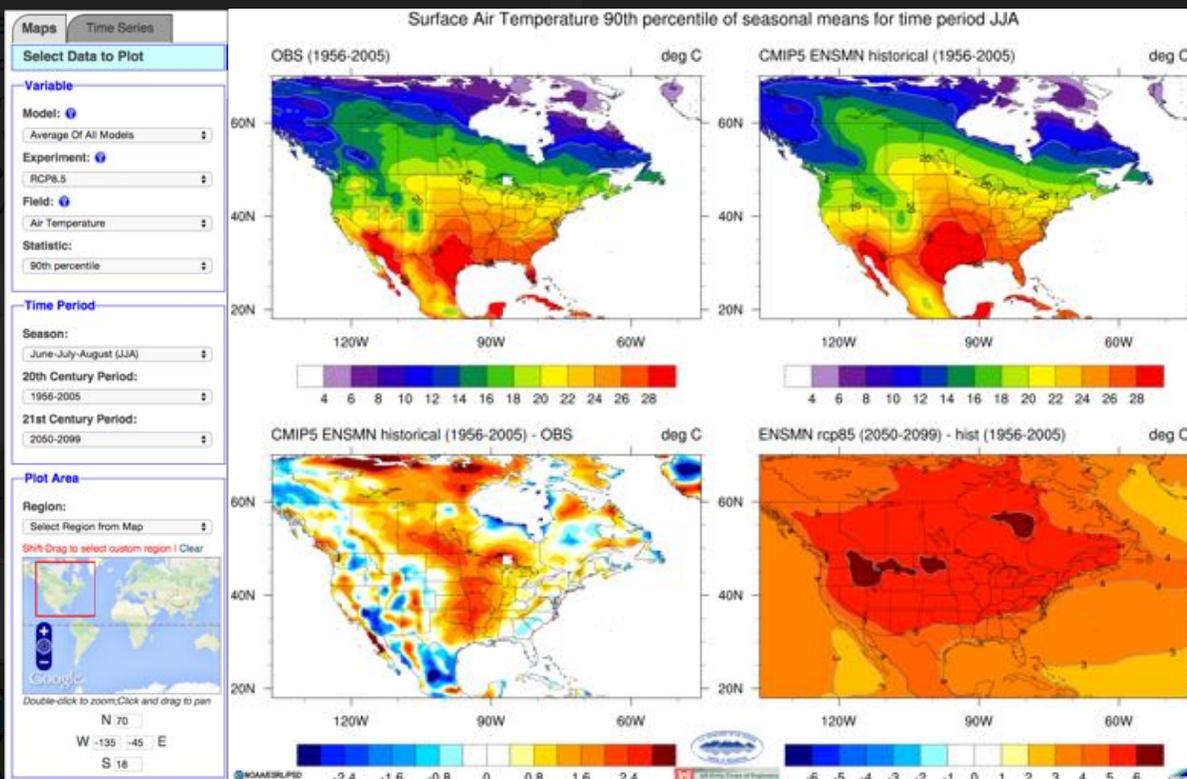
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Create Custom Maps and Time Series

- Menu Driven Interface
- Models / Experiments
- Variables / Statistics
- Seasons / Time Periods
- Pre-defined / Custom Regions

Summer Air Temperature

- 90th Percentile (5th Warmest)
- Hottest Summers 5°-6°C warmer (2050-2099)

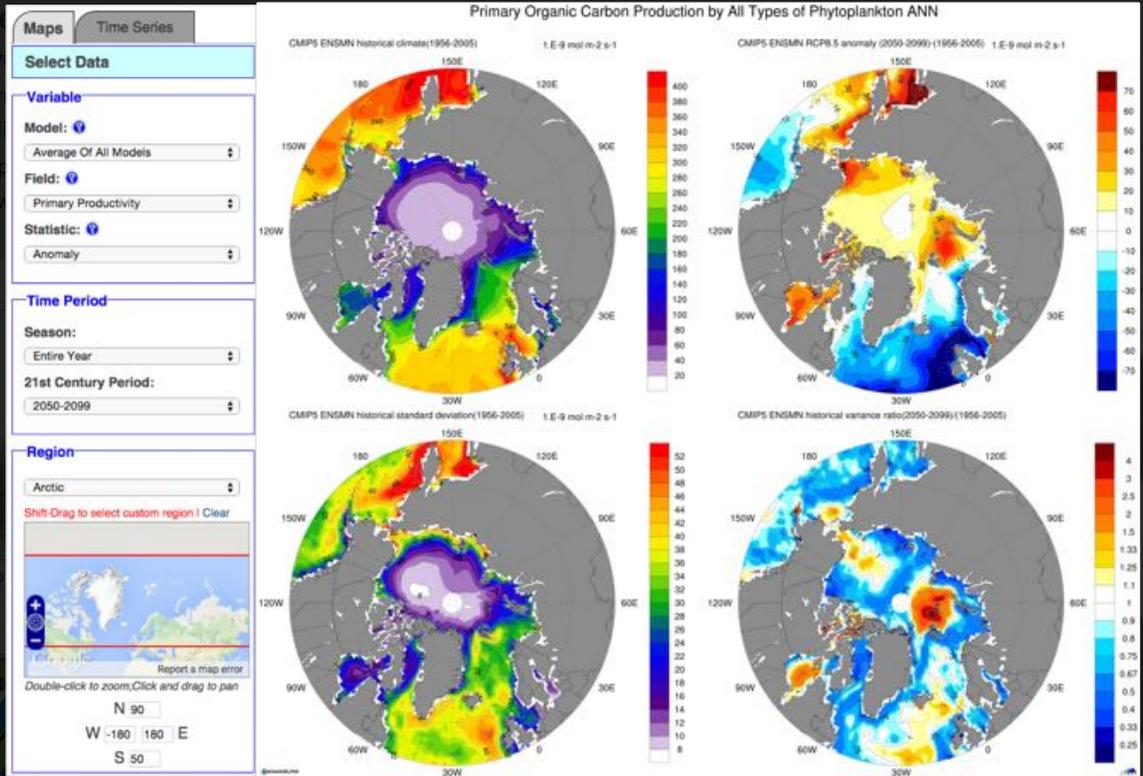


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Primary Productivity of Carbon (Phytoplankton)

- Basis of Oceanic Food Web
- Increases in Arctic (less ice)
- Decreases in N Atl, N Pac
- Stability / Nutrient Limitation



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Future Work

- President's Climate Initiative
- Climate Resilience Toolkit
- National Climate Assessment

Evolving Framework

- Additional Experiments
- Ocean Currents
- Heat Fluxes
- Snowpack
- Surface Runoff
- CMIP6?



<http://www.esrl.noaa.gov/psd/ipcc>

